



Australian Government

ACMATE504 Administer anaesthesia and perform surgery on animals for scientific purposes

Release: 2

ACMATE504 Administer anaesthesia and perform surgery on animals for scientific purposes

Modification History

Release	Comments
Release 2	This version released with ACM Animal Care and Management Training Package Version 3.0.
Release 1	This version released with ACM Animal Care and Management Training Package Version 1.0.

Application

This unit of competency describes the skills and knowledge required to prepare personnel, equipment, animals and the facility for anaesthesia and surgical procedures, and to carry out those surgical procedures for scientific purposes.

The unit applies to individuals who are required to work with and care for animals used within scientific establishments for scientific purposes and teaching.

All work practices must be undertaken in accordance with legislative requirements, the current Australian Code for the Care and Use of Animals for Scientific Purposes (the Code), the organisation's standard operating procedures, and protocols, policies and procedures approved by the organisation's Animal Ethics Committee (AEC). Users are advised to check legislative requirements for their jurisdiction.

Pre-requisite Unit

Nil

Unit Sector

Animal Technology (ATE)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare facilities,	1.1 Prepare anaesthetic and surgical facilities

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
equipment and personnel	1.2 Select and prepare anaesthetic agents, equipment and supplies 1.3 Identify, select and prepare surgical instruments and equipment 1.4 Maintain aseptic environment at all times 1.5 Follow and comply with safe work practices and work health and safety organisational protocols, policies and procedures and legislative requirements
2. Prepare animals for anaesthesia and surgery for scientific purposes	2.1 Handle and restrain animals according to organisational policies and procedures 2.2 Prepare animals according to species-specific requirements and organisational procedures 2.3 Perform pre-anaesthetic and pre-operative evaluations of animals, including indications for the use of relevant anaesthetic agents
3. Induce, maintain and monitor anaesthesia in animals	3.1 Use appropriate technique to administer pre-anaesthetic and pre-operative medication according to organisational policies and procedures 3.2 Induce anaesthesia in animals using appropriate technique 3.3 Monitor and maintain animals during anaesthetic and surgical procedures 3.4 Record and interpret variations in the physiological parameters and signs of anaesthesia 3.5 Comply with organisational protocols for anaesthetic procedures 3.6 Follow anaesthetic emergency procedures according to organisational policies and procedures
4. Perform basic surgery on animals	4.1 Locate, identify and handle anatomical and physiological structures relevant to surgical procedures conducted in the facility 4.2 Use surgical equipment and instruments accurately and safely 4.3 Apply surgical materials and medications to animals 4.4 Perform basic surgical procedures according to research, organisation and AEC protocols and relevant legislative requirements 4.5 Suture surgical wounds according to the surgical procedure 4.6 Follow agreed policies to complete post-operative anaesthesia procedures
5. Provide	5.1 Use analgesics and other supportive therapies according to

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
post-anaesthetic and post-operative care for animals	directions to manage animals post-operatively 5.2 Apply fluid therapy, medication, dressings, bandages and oxygen supplementation to animals according to animal needs and organisational procedures 5.3 Monitor surgical wounds for signs of healing, inflammation or infection 5.4 Monitor animals post-operatively and respond to abnormalities 5.5 Recognise and respond to emergencies immediately, seeking advice or assistance according to organisational practices 5.6 Accurately write and maintain monitoring records, including anaesthetic monitoring sheets, in line with research requirements and the organisation's AEC
6. Maintain facilities and equipment	6.1 Clean facilities and equipment and store according to organisational policies and procedures 6.2 Carry out routine maintenance on equipment according to manufacturer requirements 6.3 Maintain anaesthetic and surgical facilities according to organisational policies and procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Oral communication	- Engage in discussions or provide information using appropriate vocabulary and non-verbal features - Use listening and questioning techniques to confirm understanding and to engage team members
Numeracy	- Recognise safety parameters and interpret numerical information regarding quantities and doses of anaesthetic agents accordingly - Interpret changes to timelines and surgery schedules, and calculate and adjust work requirements accordingly

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
ACMATE504 Administer anaesthesia and perform surgery on animals for scientific purposes Release 2	ACMATE504 Administer anaesthesia and perform surgery on animals for scientific purposes Release 1	Minor changes to performance criteria and knowledge evidence for clarity Revised performance evidence to reduce duplication with performance criteria	Equivalent unit

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b75f4b23-54c9-4cc9-a5db-d3502d154103>

Assessment Requirements for ACMATE504 Administer anaesthesia and perform surgery on animals for scientific purposes

Modification History

Release	Comments
Release 2	This version released with ACM Animal Care and Management Training Package Version 3.0.
Release 1	This version released with ACM Animal Care and Management Training Package Version 1.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has:

- administered anaesthesia and performed basic surgery for scientific purposes on animals on at least two occasions according to all organisational policies and procedures.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- basic animal anatomy and physiology, including:
 - terminology and nomenclature related to the species being examined, anaesthetic processes, equipment and materials
 - anatomical structures, tissues and organs relevant to basic surgical procedures and the induction and monitoring of animals under anaesthetic
 - physiological features of animals related to the application of anaesthesia and related medications and the response to surgical procedures
- location and features of anatomical and physiological structures, including:
 - integument and facial structures
 - musculoskeletal structures
 - digestive system structures and organs
 - reproductive system, organs and structures
- principles and practices for administering anaesthesia:

- basic types of anaesthetic and analgesic agents and drugs, and effects on animal physiology, including side effects and complications
- techniques for administering anaesthetic agents, including intramuscular (IM), subcutaneous (SC), intravenous (IV), mask and intubation
- methods and equipment used to monitor animals during anaesthesia and surgical procedures
- procedures for managing an anaesthetic overdose
- terminology used to describe anaesthetic processes, equipment, materials and physiological responses
- safe animal handling techniques, including approved handling methods during the administration of substances and surgical procedures
- surgical procedures and techniques used in animal technology facilities, including:
 - aseptic techniques
 - biosecurity issues for animals and humans
- characteristics of healthy, sick or distressed animals, including indicators of normal and undesirable responses to anaesthetic and related medications
- communication procedures and systems, and technology relevant to the organisation and the individual's work responsibilities
- information that should be documented regarding the administration of anaesthetic and related substances and application of surgical procedures
- methods used to measure, interpret and record objective measures of animal health
- types of information to be reported and recorded in relation to anaesthesia and surgical procedures
- key features of the Australian Code for the Care and Use of Animals for Scientific Purposes
- workplace procedures and key requirements of relevant state or territory legislation and regulations relating to administering anaesthesia and performing surgery, including:
 - the practice of veterinary science
 - health and safety
 - waste disposal
 - animal welfare and research
 - the use of therapeutic and controlled substances
- workplace hygiene standards, including commonly used disinfectants and cleaning agents, techniques, equipment and materials.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - a workplace, or a simulated environment that accurately reflects performance in a real workplace setting
- resources, equipment and materials:
 - animals for administering anaesthesia and performing surgery on

- equipment and resources used when administering anaesthesia and performing surgery, including personal protective equipment
- specifications:
 - organisational policies and procedures, legislation, regulations, standards and codes of practice relevant to work undertaken in animal research and technology.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b75f4b23-54c9-4cc9-a5db-d3502d154103>